CLAIMS

What is claimed is:

1. A method of routing voice communications, comprising:

a) establishing a first path between a remote originating node and a gateway using a first channel of a circuit-switched network, wherein the gateway is communicatively coupled to the circuit-switched network and a packet-switched network; and

b) establishing a second path between an answering node and the gateway using a second channel of the circuit-switched network if the answering node is remote relative to the gateway, wherein the first and second paths collectively form a bi-directional communication path.

2. The method of claim 1 further comprising:

c) establishing the second path between the answering node and the gateway using the packet-switched network, if the answering node is local relative to the packet-switched network.

3. The method of claim 1 further comprising:

c) communicating voice data between the first and second nodes through the gateway.

4. The method of claim 1 wherein the gateway performs the following steps:

i) converting first circuit-switched voice data received from the circuit-switched network into packet-switched voice data;

ii) converting packet-switched voice data into second circuit-switched voice data for any packet designating a remote destination node; and

iii) routing the second circuit-switched data to the remote destination node across the circuit-switched network.

5. The method of claim 1 wherein at least one of the originating and answering nodes is circuit-switched subscriber equipment comprising a selected one of a telephone, modem, and facsimile apparatus.

6. A method of routing voice communications between first and second nodes of a communication system, comprising:

a) converting first circuit-switched voice data received from a remote first node on a first channel of a circuit-switched network to packet-switched voice data; and

b) routing the packet-switched voice data to the second node, only if the second node is local to the packet-switched network.

7. The method of claim 6 further comprising:

c) converting the packet-switched voice data to second circuit-switched voice data; and

d) routing the second circuit-switched voice data to the second node, if the second node is remote from the packet-switched network.

8. Apparatus for communicating between two nodes of a communication system, comprising:

a gateway, wherein the gateway converts first circuit-switched voice data received from a remote first node on a first channel of a circuit-switched network to packet-switched voice data, wherein the gateway converts the packet-switched voice data to second circuit-switched voice data for any packet designating a remote second node, wherein the gateway communicates the second circuit-switched voice data to the remote second node using a second channel of the circuit-switched network.

9. The apparatus of claim 8, wherein the packet-switched voice data is routed to a local second node using a packet-switched network for any packet designating the local second node.

10. The apparatus of claim 8 wherein at least one of the first and second nodes is communicatively coupled to the gateway through both the circuit-switched network and the packet-switched network.

11. The apparatus of claim 8 wherein the first channel carries analog data on an analog subscriber line.

12. The apparatus of claim 8 wherein the first channel carries digital data on a digital subscriber line.

13. The apparatus of claim 12 wherein the digital subscriber line is time division multiplexed.

14. The apparatus of claim 8 wherein the first channel defines a connection between the gateway and subscriber equipment of the first node, wherein the subscriber equipment is a selected one of a modem, telephone, and facsimile apparatus.

15. Apparatus for communicating between first and second nodes of a circuit-switched network coupled to a packet-switched network, comprising:

gateway conversion means for bi-directional conversion of voice data between the circuit-switched network and the packet-switched network, wherein the gateway conversion means is communicatively coupled to the first node using a first channel, wherein the gateway conversion means is communicatively coupled to the second node using a second channel, wherein the gateway conversion means converts first circuit-switched voice data originating from one of the first and second nodes into packetized voice data; and

routing means for routing packetized data, wherein the routing means routes packetized voice data designating one of the first and second nodes as a destination node to the gateway conversion means, wherein the gateway conversion means converts received packetized voice data to second circuit-switched voice data, wherein the gateway conversion means communicates second circuit-switched voice data to one of the first and

second nodes using a corresponding one of the first and second channels in accordance with the identity of the designated node.

16. The apparatus of claim 15 wherein at least one of the first and second nodes is communicatively coupled to the gateway through both the circuit-switched network and the packet-switched network.

17. The apparatus of claim 15 wherein the first channel carries analog data on an analog subscriber line.

18. The apparatus of claim 15 wherein the first channel carries digital data on a digital subscriber line.

19. The apparatus of claim 18 wherein the digital subscriber line is time division multiplexed.

20. The apparatus of claim 15 wherein the first channel defines a connection between the gateway conversion means and subscriber equipment of the first node, wherein the subscriber equipment is a selected one of a modem, telephone, and facsimile apparatus.